

28kV CU 133% TRXLPE LCT LLDPE Primary UD

Single Conductor, 345 Mils Tree Retardant Cross Linked Polyethylene, 133% Insulation Level, Longitudinally Corrugated Tape Shield, Linear Low Density Polyethylene (LLDPE) Jacket. Silicone Free

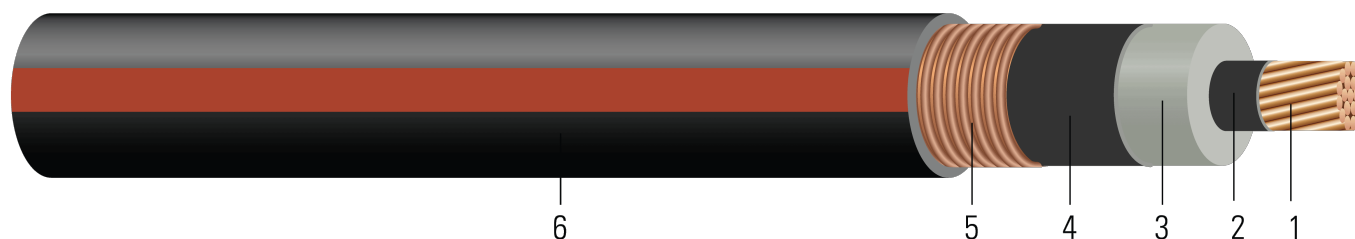


Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

- Conductor:** Moisture blocked class B compressed stranded soft drawn bare copper per ASTM B3 and ASTM B8 (Conductor moisture block optional and tinned copper per ASTM B33 optional)
- Conductor Shield:** Conventional Semi-conducting cross-linked copolymer; Supersmooth conductor shield optional; A conductor tape is used for cable size larger than or equal to 1500 Kcmil
- Insulation:** 345 Mils Tree Retardant Cross Linked Polyethylene 133% insulation level
- Insulation Shield:** Strippable semi-conducting cross-linked copolymer
- Tape Shield:** 10 mils Longitudinally Corrugated Tape Shield
- Overall Jacket:** Linear Low Density Polyethylene (LLDPE) Jacket, black with red extruded stripes; PowerGlide® LLDPE jacket optional

APPLICATIONS AND FEATURES:

Southwire's 28kV cables are suited for use in wet and dry areas, conduits, ducts, troughs, trays, direct burial, sunlight, and where superior electrical properties are desired. These cables are capable of operating continuously at the conductor temperature not in excess of 90°C for normal operation, 130°C for emergency overload, and 250°C for short circuit conditions. Jacket types available that can be installed in conduit without the aid of lubrication. Rated for 1000 lbs./FT maximum sidewall pressure.

SPECIFICATIONS:

- ASTM B3 Standard Specification for Soft or Annealed Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper Conductors
- ASTM B33 Standard Specification for Tin-Coated Soft or Annealed Copper Wire
- ICEA S-97-682 Standard for Shielded Utility Cable Rated for 5 - 46kV
- AEIC CS-8 Specification for extruded dielectric shielded power cables rated for 5 through 46KV
- Rural Utility Standard RUS 1728F-U1 or 1728.204 (Electric standards and specifications for materials and construction)
- UL 1072 Listed as MV 90 When Specified
- Optional CSA 68.5: -40°C and MV 90°C optional marking available upon request

SAMPLE PRINT LEGEND:

SOUTHWIRE HI-DR(R) [CONDUCTOR SIZE] [AWG or KCMIL] CU 28000 VOLTS TRXLPE INSULATION 345 MILS -- (NESC) --
SOUTHWIRE {MMM} {YYYY} NON-CONDUCTING JACKET



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Table 1 – Weights and Measurements

Stock Number	Cond. Size	Diameter Over Conductor	Diameter Over Insulation	Insul. Thickness	Diameter Over Insulation Shield	Jacket Thickness	Approx. OD	Approx. Weight	Min Bending Radius	Max Pull Tension*
	AWG/ Kcmil	inch	inch	mil	inch	mil	inch	lb /1000ft	inch	lb
TBA	1 (1)	0.289	1.016	345	1.076	80	1.336	930	10.6	670
TBA	1 (19)	0.322	1.049	345	1.109	80	1.369	966	10.9	670
TBA	1/0 (1)	0.325	1.052	345	1.112	80	1.372	1018	10.9	845
TBA	1/0 (19)	0.362	1.089	345	1.149	80	1.409	1060	11.2	845
TBA	2/0 (19)	0.405	1.132	345	1.192	80	1.452	1174	11.6	1065
TBA	3/0 (19)	0.456	1.183	345	1.243	80	1.503	1318	12.0	1342
TBA	4/0 (19)	0.512	1.239	345	1.299	80	1.559	1493	12.4	1693
TBA	250 (37)	0.558	1.294	345	1.354	80	1.580	1691	12.	2000
TBA	350 (37)	0.661	1.397	345	1.457	110	1.743	2141	13.9	2800
TBA	500 (37)	0.789	1.525	345	1.585	110	1.871	2703	14.9	4000
TBA	750 (61)	0.968	1.713	345	1.773	110	2.059	3627	16.4	6000
TBA	1000 (61)	1.117	1.862	345	1.922	110	2.208	4522	17.6	8000

All dimensions are nominal and subject to normal manufacturing tolerances

◊ Cable marked with this symbol is a standard stock item

* Pulling tension based on pulling eye directly connected to conductor



Table 2 – Electrical and Engineering Data

Cond. Size	DC Resistance @ 25°C	AC Resistance @ 90°C	Capacitive Reactance @ 60Hz	Inductive Reactance @ 60Hz	Charging Current	Dielectric Loss	Zero Sequence Impedance*	Positive Sequence Impedance*	Short Circuit Current @ 30 Cycle	Allowable Ampacity in Duct 90°C†	Allowable Ampacity Directly Buried 90°C‡
AWG/Kcmil	Ω/1000ft	Ω/1000ft	MΩ*1000ft	Ω/1000ft	A/1000ft	W/1000ft	Ω/1000ft	Ω/1000ft	Amp	Amp	Amp
1 (1)	0.129	0.161	0.077	0.054	0.209	1.014	0.421+j0.146	0.162+j0.054	4535.0	175	220
1 (19)	0.129	0.161	0.073	0.052	0.222	1.074	0.416+j0.139	0.162+j0.052	4655.2	175	220
1/0 (1)	0.102	0.128	0.073	0.052	0.223	1.080	0.383+j0.139	0.129+j0.052	4666.1	200	250
1/0 (19)	0.102	0.128	0.068	0.051	0.237	1.147	0.377+j0.132	0.129+j0.051	4800.9	200	250
2/0 (19)	0.081	0.101	0.064	0.049	0.253	1.225	0.343+j0.125	0.102+j0.049	4957.4	230	285
3/0 (19)	0.0642	0.080	0.060	0.047	0.271	1.316	0.315+j0.117	0.081+j0.047	5143.1	260	325
4/0 (19)	0.051	0.064	0.055	0.046	0.292	1.415	0.291+j0.109	0.065+j0.046	5347.1	300	365
250 (37)	0.0431	0.054	0.052	0.044	0.312	1.512	0.274+j0.102	0.055+j0.044	5547.3		
350 (37)	0.0308	0.039	0.046	0.042	0.349	1.692	0.247+j0.092	0.040+j0.042	5922.4	390	480
500 (37)	0.0216	0.028	0.041	0.040	0.394	1.913	0.222+j0.081	0.030+j0.040	6388.5	470	575
750 (61)	0.0144	0.019	0.035	0.038	0.461	2.235	0.196+j0.068	0.021+j0.038	7073.1	585	695
1000 (61)	0.0108	0.015	0.032	0.036	0.513	2.489	0.180+j0.060	0.017+j0.036	7615.6	670	785

* Calculations are based on three cables triplexed / tape shield / Conductor temperature of 90°C / Shield temperature of 45°C / Earth resistivity of 100 ohms-meter

† Ampacities are based on Figure 7 of ICEA P-117-734 (Single circuit trefoil, 100% load factor, 90°C conductor temperature, earth RHO 90, 36" burial depth)

‡ Ampacities are based on Figure 1 of ICEA P-117-734 (Single circuit trefoil, 100% load factor, 90°C conductor temperature, earth RHO 90, 36" burial depth)



Table 3 – Weights and Measurements (Metric)

Stock Number	Cond. Size	Diameter Over Conductor	Diameter Over Insulation	Insul. Thickness	Diameter Over Insulation Shield	Jacket Thickness	Approx. OD	Approx. Weight	Min Bending Radius	Max Pull Tension*
	AWG/ Kcmil	mm	mm	mm	mm	mm	mm	kg/km	mm	newton
TBA	1 (1)	7.34	25.81	8.76	27.33	2.03	33.93	1384	269.24	2982
TBA	1 (19)	8.18	26.64	8.76	28.17	2.03	34.77	1438	276.86	2982
TBA	1/0 (1)	8.25	26.72	8.76	28.24	2.03	34.85	1515	276.86	3760
TBA	1/0 (19)	9.19	27.66	8.76	29.18	2.03	35.79	1577	284.48	3760
TBA	2/0 (19)	10.29	28.75	8.76	30.28	2.03	36.88	1747	294.64	4739
TBA	3/0 (19)	11.58	30.05	8.76	31.57	2.03	38.18	1961	304.80	5972
TBA	4/0 (19)	13.00	31.47	8.76	32.99	2.03	39.60	2222	314.96	7534
TBA	250 (37)	14.17	32.87	8.76	34.39	2.03	40.13	2516	304.80	8900
TBA	350 (37)	16.79	35.48	8.76	37.01	2.79	44.27	3186	353.06	12460
TBA	500 (37)	20.04	38.73	8.76	40.26	2.79	47.52	4023	378.46	17800
TBA	750 (61)	24.59	43.51	8.76	45.03	2.79	52.30	5398	416.56	26700
TBA	1000 (61)	28.37	47.29	8.76	48.82	2.79	56.08	6729	447.04	35600

All dimensions are nominal and subject to normal manufacturing tolerances

◊ Cable marked with this symbol is a standard stock item

* Pulling tension based on pulling eye directly connected to conductor



Table 4 – Electrical and Engineering Data (Metric)

Cond. Size	DC Resistance @ 25°C	AC Resistance @ 90°C	Capacitive Reactance @ 60Hz	Inductive Reactance @ 60Hz	Charging Current	Dielectric Loss	Zero Sequence Impedance*	Positive Sequence Impedance*	Short Circuit Current @ 30 Cycle	Allowable Ampacity in Duct 90°C†	Allowable Ampacity Directly Buried 90°C‡
AWG/Kcmil	Ω/km	Ω/km	MΩ*km	Ω/km	A/km	W/km	Ω/1000ft	Ω/1000ft	Amp	Amp	Amp
1 (1)	0.4232	0.53	0.0235	0.1772	0.686	3.3268	0.421+j0.146	0.162+j0.054	4535.0	175	220
1 (19)	0.4232	0.53	0.0223	0.1706	0.728	3.5236	0.416+j0.139	0.162+j0.052	4655.2	175	220
1/0 (1)	0.3346	0.42	0.0223	0.1706	0.732	3.5433	0.383+j0.139	0.129+j0.052	4666.1	200	250
1/0 (19)	0.3346	0.42	0.0207	0.1673	0.778	3.7631	0.377+j0.132	0.129+j0.051	4800.9	200	250
2/0 (19)	0.2657	0.33	0.0195	0.1608	0.830	4.0190	0.343+j0.125	0.102+j0.049	4957.4	230	285
3/0 (19)	0.2106	0.26	0.0183	0.1542	0.889	4.3176	0.315+j0.117	0.081+j0.047	5143.1	260	325
4/0 (19)	0.1673	0.21	0.0168	0.1509	0.958	4.6424	0.291+j0.109	0.065+j0.046	5347.1	300	365
250 (37)	0.1414	0.18	0.0158	0.1444	1.024	4.9606	0.274+j0.102	0.055+j0.044	5547.3		
350 (37)	0.1010	0.13	0.0140	0.1378	1.145	5.5512	0.247+j0.092	0.040+j0.042	5922.4	390	480
500 (37)	0.0709	0.09	0.0125	0.1312	1.293	6.2762	0.222+j0.081	0.030+j0.040	6388.5	470	575
750 (61)	0.0472	0.06	0.0107	0.1247	1.512	7.3327	0.196+j0.068	0.021+j0.038	7073.1	585	695
1000 (61)	0.0354	0.05	0.0098	0.1181	1.683	8.1660	0.180+j0.060	0.017+j0.036	7615.6	670	785

* Calculations are based on three cables triplexed / tape shield / Conductor temperature of 90°C / Shield temperature of 45°C / Earth resistivity of 100 ohms-meter
 † Ampacities are based on Figure 7 of ICEA P-117-734 (Single circuit trefoil, 100% load factor, 90°C conductor temperature, earth RHO 90, 36" burial depth)
 ‡ Ampacities are based on Figure 1 of ICEA P-117-734 (Single circuit trefoil, 100% load factor, 90°C conductor temperature, earth RHO 90, 36" burial depth)

